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termine motion of spool and weight. [From problems in Mechanics at Harvard University.]

*** Solutions of these problems should be sent to B. F. Finkel not later than November 10.

AVERAGE AND PROBABILITY.

80. Proposed by G. B. M. ZERR, A. M., Ph. D., Professor of Mathematics and Science, Chester High School, Chester, Pa.

A box contains 100 balls marked from 1 to 100. 13 balls are drawn at random. What is the chance that the balls marked from 1 to 10 are included in the 13 drawn?

81. Proposed by LON C. WALKER, Graduate of Leland Stanford, Jr., University, Palo Alto, Cal.

Find (1) the mean distance of all points on a side of an equilateral triangle from the opposite vertex; and (2), the average length of a line drawn at random across an equilateral triangle.

*** Solutions of these problems should be sent to B. F. Finkel not later than November 10.

MISCELLANEOUS.

81. Proposed by G. B. M. ZERR, A. M., Ph. D., Professor of Mathematics and Science, Chester High School, Chester, Pa.

A cask in the form of a middle frustum of a spheroid, middle diameter $2b$, end diameters each $2c$, length $2d$, is lying in a horizontal position. The distance from middle of top to water is $b+e$, $e < b-c$. How much water is in the cask?

82. Proposed by A. H. BELL, Hillsboro, Ill.

Four spheres of equal radii $=r=5$, are in contact, and form a triangular period. How large is the sphere that can be placed in middle and be in contact with the four spheres?

*** Solutions of these problems should be sent to J. M. Colaw not later than November 10.

EDITORIALS.

Prof. J. O. Mahoney has been elected teacher of mathematics in the Dallas High School, Dallas, Texas.

Mr. Peter Field, Fellow in Cornell University, has been appointed Professor of Mathematics in Carthage College, Carthage, Ill.

Dr. J. V. Westfall, Honorary Fellow in Cornell University, has been appointed Senior Instructor in Mathematics in the Iowa State University.

Miss Mary M. Blaine, B. S. (Drury College), has been given a scholarship in the University of Pennsylvania, and has gone there to pursue a course of study in mathematics.

The Franklin Institute of Philadelphia has lately created the office of mathematical contributor to the Physical and Astronomical Section, and has appointed Dr. G. B. M. Zerr as the contributor for the coming year.

This issue of this MONTHLY has been unavoidably delayed. Subsequent issues will be out on time. The next issue will contain more than the usual number of pages, as an article of unusual interest, by Dr. Halsted, is to appear.

Dr. L. E. Dickson, formerly Assistant Professor of Mathematics in the University of California, has been elected Associate Professor of Mathematics in the University of Texas. Dr. Halsted is to be congratulated in being able to call to his assistance one of the ablest young mathematicians in the country. With Dr. Halsted noted for his valuable work in non-Euclidean Geometry, and Dr. Dickson a recognized authority on Group Theory, the University of Texas will be able to offer as good courses in mathematics as are offered anywhere in this country.

The Sixth Summer Meeting of the American Mathematical Society met at Columbus, Ohio, August 25th and 26th. The meeting was well attended, and the papers read and discussed were of great value. Dr. J. V. Collins read a paper on "A relation between point and vector analysis"; Dr. E. H. Moore presented Prof. Frank Morley's paper, "On the generalization of Desargues' theorem," and one of his own "On certain crinkly curves"; Dr. G. A. Miller read a paper "On groups that are the direct products of two subgroups"; and Dr. L. E. Dickson read two papers, one on "A new definition of the general Abelian linear group," the other on "Definitions of various linear groups as groups of isomorphisms." Dr. Halsted's able report on Non-Euclidean Geometry was read before Section A of the Association for the Advancement of Science on Tuesday, and was greatly appreciated by his audience. Dr. Alexander Macfarlane, president of Section A, read a very interesting paper on "The fundamental principles of algebra." Dr. Macfarlane gave a very interesting and exhaustive treatment of this subject, tracing the important advances in the philosophy of the fundamental principles of algebra which have been made in the present century.

At this meeting we had the pleasure of meeting a number of our good friends. Among those, whom we had long known through correspondence, but now have the pleasure of knowing personally, were Dr. Halsted, of the University of Texas; Prof. Ormond Stone, of the University of Virginia; Prof. R. S. Woodward, of Columbia; Prof. D. V. Bohannon, of the Ohio State University; Dr. J. V. Collins, of the State Normal School of Wisconsin; Prof. W. W. Beman, of the University of Michigan; Mr. J. W. Young, Graduate Student, Ohio State University; Dr. Alexander Macfarlane, Lehigh University; and Prof. F. E. Miller, of Otterbein University.